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soil conservation

DEVOTED TO THE WISE USE OF LAND AND WATER RESOURCES

Resource Conservation and Development Projects
Summary of SCS activities 1968

SOIL CONSERVATION SERVICE

U. S. DEPARTMENT OF AGRICULTURE

February 1969 Vol. 34, No. 7

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DEVOTED TO THE WISE USE OF LAND AND WATER RESOURCES

COVER: In a revival of a resource-based industry in the Tradewater RC&D Project in Kentucky, logs are being assembled into rafts to be floated down the Ohio River to a veneer mill.

Success . . .

RC&D projects across the country are chalking up one success story after another. No sooner had we published the many-sided account of the Lincoln Hills Project in Indiana (*Soil Conservation,* December 1967) than State Conservationist Ralph Sasser of Tennessee was asking equal space to tell the Hull-York Lakeland story.

It's different, as every RC&D project is bound to be, but it's equally impressive.

Our men on the ground, Project Coordinator A. K. Booher and Area Conservationist D. W. Moyer, gave us a detailed account of RC&D activities and accomplishments.

Then we sent Information Specialist Claude Crowley to talk to the people and report on the human aspects of the story. A former resident of the area, he was especially qualified to see and interpret the changes.

The resulting article is exceptionally revealing of the personal effort and dedication necessary to get a project underway and of the economic and human rewards that attend success.

Variety: We had space to publish only a few examples (pp. 155, 156, 157, 168) of the kinds of things that local people can do as "project measures" in RC&D projects.

The combination of imagination with the untold variety of natural resources in different geographic areas offers almost limitless opportunity for economic development.

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Farming in the Upper Cumberland landscape.

What is an RC&D project?

The Hull-York Lakeland story reveals many facets of a regional development program

"We have reduced flooding, saved jobs, beautified the countryside, and made improvements that raised the quality of our living.

"But the real story in the Hull-York country is how our people have been changed."

Dr. L. R. Dudney is talking. He is president of the Hull-York Lakeland RC&D Association, prime mover and organizer of Tennessee's 11-county resource conservation and development project in the Cumberland Highlands.

In the 2 years of the project's operation, people of the area have completed 51 specific planned activities—"project measures" approved by the steering committee and aided in some way by financial or technical help—aimed at making better use of natural resources and stimulating the local economy.

The completed measures provided 275 man-years of employment during installation and are estimated to result in continuing employment of almost 2,000 man-years annually. Their economic benefits will add $7\frac{1}{2}$ million of gross income in the area each year.

Installation is underway on 32 other measures, expected to add another 820 man-years of continuing employment and $10.8 million gross income to the area annually.

This is a crude measure of the economic impact of the project in the early months of its operation.

But what of the "people effect," as Dr. Dudney calls it?

"Only a few years ago we were Tennessee's problem child," he says. "We lacked confidence in the future. People left in droves. My home county lost a fourth of its population in the fifties.

"Those who left were generally the young productive people. The tax base shrank. Modern school rooms sat empty. Businesses closed.

"Now spirit is high. Good things are happening, some with and some without outside help—things that require coordination and common concern, qualities not evident before the project came to life."

Dr. Dudney is motivated by a conviction that conservation, like medicine, deals with life itself. His drive for the project has had the ring of a deep love of the country and an insight into the character of the people who inhabit it derived from 20 years' service as a country doctor after a career as an industrial physician. He retired from practice in 1965 and found a new fulltime career in resource conservation and development.

The roots of the Hull-York Lake-

"The real story is in how our people changed"

Dr. L. R. Dudney.

land area problems go back through a century and a half of isolation and exploitation.

Scotch-Irish frontiersmen settled the Upper Cumberland in the early part of the 19th century. These settlers had a traditional fear of government and religious persecution. They found the isolation and independence they were seeking in the vast highland forests.

While many of the pioneer clearings were still new, the Civil War came to the mountains. Few people owned slaves, but loyalty was divided. Bad feeling lingered in the border counties for the better part of a century and contributed much to the legend of the feuding clannish mountaineer.

In the latter 19th century, exploitation of the timber began.

Timber speculators viewed the forest as an unlimited natural resource. Conservation was unknown. Timber men bought the land or timber rights for very low prices. The woodlands were cut over—not once but several times.

Coal mining, too, started late in the 19th century.

Outside capital was used to develop the mines and build the mining towns. But most of the coal money went to investors and stockholders far away.

Coal from the Upper Cumberland helped fire the furnaces of war plants in World Wars I and II. Later, mechanization and higher wages made operating the mines unprofitable, and they began to close one by one.

Then, heavy machines were perfected and surface mining of coal became practical. The seams were often on steep land, high up on the mountainsides. The effect on the landscape was catastrophic. Trees, soil, and rocks slid hundreds of yards down the slopes. Each rain carried tons of debris into the streams, destroying their esthetic values and snuffing out the fisheries.

The farm economy of the area has always lagged.

Much of the land is steep with shallow soils. Traditional row-crop farming did not produce a comfortable income at best, and erosion stole away the basic soil resource.

All of the problems of the Upper Cumberland country can be reduced to a lowest common denominator—their effect on people: First, in the number of people who moved away and, second, on the income of those who stayed.

Almost all migration has been out, not in. And there was less opportunity for those who stayed.

According to the 1960 census, eight of the 11 counties in the Hull-York area reported a per capita income of less than $821. The median family income was $2,178, about a third of the median for the Nation.

The beginnings

For more than 25 years soil conservation districts have been at work in the Upper Cumberland, and several watershed projects were being installed with the aid of Public Law 566. They made progress in stemming the wastage of soil and water, but the social and economic problems were beyond their reach.

About the time Federal legislation was passed in 1962 to aid resource conservation and development efforts, the outmigration, low income, and other problems were at their worst.

It took a while for the RC&D idea to be absorbed, but people were soon talking of an organization for the Upper Cumberland.

The regional concept of resource development was not new. It is basic to watershed and river basin programs and to large regional endeavors such as the Appalachian Regional Development Act and the Great Plains Conservation Program.

But the RC&D legislation brought to the Upper Cumberland, for the first time, a program both practical and flexible. It created opportunities for regional action in an area small enough for the development of a neighborhood spirit. Common interests, problems, and language attracted people to the RC&D movement.

In mid-1964 a preliminary association was formed by people from Jackson, Smith, and Clay counties to seek assistance from the Department of Agriculture in organizing an RC&D project. Dr. Dudney was elected chairman.

Later the area was enlarged to include eight counties (Cumberland, DeKalb, Fentress, Macon, Overton, Pickett, Putnam, and White) to conform to one of the planning areas delineated by the Tennessee Planning Commission.

A Pulitzer prize-winning reporter, Nat Caldwell of the *Nashville Tennessean*, exposed problems and preached about the undeveloped assets of the area. He sparked interest from the National Educational Television Network, and a filming crew made a documentary of the area's problems and possibilities. The story was shown on 47 NET stations.

Coleman Harwell, editor of the *Putnam County Herald*, Cookeville, also sturdily supported the project with news space, editorials, and talent.

The organization

In October 1964, the RC&D project was organized under the sponsorship of the soil conservation districts. A permanent association was formed with Dr. Dudney as chairman of a board of two directors and two alternates from each participating county. For each county, one director is appointed by the soil conservation district and one by the county rural areas development program committee.

The following year was a time of frustration—and growth. Dr. Dudney traveled thousands of miles to civic club meetings, soil conservation district meetings, and any other gathering where he could tell people that they could and should help form a team to alleviate regionwide problems.

By the fall of 1965 the fire was

ready for the fat, as the saying goes. The project was authorized for planning in November.

Joe Couch, an experienced SCS soil conservationist hailing from nearby Warren County, had been appointed project coordinator just a month before. His job was to help the local people formulate their plans in terms that could be reviewed and evaluated by agencies and organizations that could be invited to participate.

For the plan-making process, the board termed itself a steering committee. It then appointed 11 "subject" subcommittees. These were for Agriculture; Arts and Crafts; Beautification; Community Facilities; Education, Health, and Welfare; Fish and Wildlife; Industry and Mining; Recreation and Tourism; Transportation; Water Resources; and Woodland.

Subcommittees were staffed by soil conservation district supervisors, watershed directors, county officials, and other local leaders. The County Technical Action Panel (TAP) members and other professional people—soil conservationists, county agents, geologists, sanitarians, health officers, and others—were asked to work with these subcommittees as consultants.

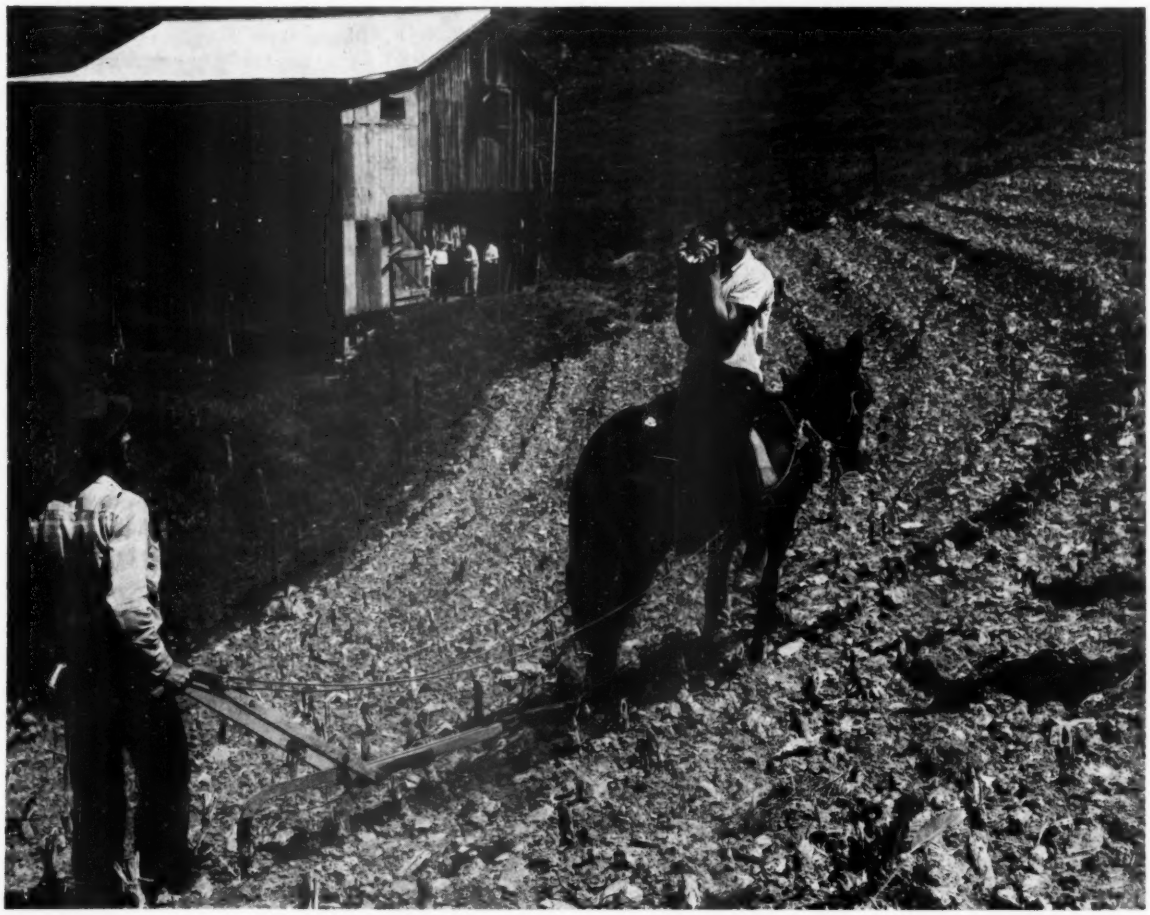
"We took the program to the people," Dr. Dudney said. "Our committeemen and consultants traveled with me to about 40 informational meetings in courthouses and schools. We invited questions and encouraged everyone to submit suggestions. About 1,400 people attended these meetings."

Organizing and planning took from November of 1965 until July of 1966. In October 1966 the plan was authorized for operations.

The Hull-York Lakeland Project has been in operation more than 2 years. How effective it has been is interpreted in different ways by different people. All agree that it has brought changes.

Among the most far-reaching, though perhaps the least spectacular, effects is that on the countryside itself through accelerated assistance to farmers and other landowners.

TV cameraman assumes an unusual stance as he films a documentary of Hull-York area's people and resources.



Sgt. Alvin T. York's old mill, now a part of Pickett State Park.

The average farm contains less than 100 acres and yields about $1,200 annual income. About two-thirds of the area is in woodland.

The U. S. Forest Service made a comprehensive study of the timber resources as called for by the plan. It found that the timber resource was "damaged by fire, overharvest, neglect, and abuse," and that "an effort is needed to educate landowners to the need for management and improvement."

As a result, the Woodland Committee is helping landowners organize a timber development group to seek ways to raise the level of timber management in the area.

The RC&D association working with the state forestry division has brought about the establishment of forest fire protection in all 11 counties for the first time. An accelerated tree planting program is also making good progress.

An SCS plant materials subcenter has been established in cooperation with Tennessee Technological University to find and test new plants for problem soils common to the area.

To further accelerate conservation assistance to farmers, the Soil Conservation Service employed four additional soil conservationists and one soil scientist. All five men are paid by Federal RC&D funds.

SCS records show that the extra help has increased the rate of conservation farm planning by about 40 percent over preproject days. The 11-county average before the extra assistance was about 275 plans completed by landowners each year. In the past year, it was 395.

A. K. Booher, a native of the area with 15 years' experience as a soil conservationist in several locations, replaced Couch as project coordinator in 1967 when Couch accepted a graduate scholarship.

"It is increasingly difficult to tell what project measure helps which people," Booher says. "Development of nonfarm enterprises creates more opportunity for farm people. In fact many, if not most, people who are employed in our fast-developing industrial community are from farms."

One of the key goals of the RC&D association has been to stimulate industrial development. A number of industries have recently established plants in the area, and many local plants have expanded their operations. The Industrial and Mining Committee has worked to accelerate this development.

The committee organized an industrial development conference held at Cookeville in May 1966. The Small Business Administration, Economic Development Administration, Tennessee Industrial Development Commission, and regional chambers of commerce joined in sponsoring the conference and in presenting facts about the resources of the area favorable for industry. Representatives of 12 industries attended. It is planned to hold conferences every 2 years.

The committee is also working to employ a full-time industrial director for the project area. It is encouraging local communities to establish industrial parks. One such park has been completed at Gainesboro, and another is being installed at Livingston.

Now 10 of the 11 RC&D counties have new industries. Douglas Aircraft Company has five plants in the area, employing about 1,000 people. The Fleetguard Division of Cummins Diesel Company has located a new plant at Cookeville.

Six of the RC&D counties were recently designated for a Concentrated Employment Program under the leadership of the U. S. Department of Labor and the Tennessee Department of Employment Security. Advisers included the Economic Development Administration, the Office of Economic Opportunity, the Department of Agriculture, county judges, mayors, chambers of commerce, and industrial leaders.

To date, three training centers have been established. The centers screen the unemployed for orientation and education. After screening, many are offered employment with industry or as workers in the Mainstream Program of the Office of Economic Opportunity. Others are enrolled in vocational trade schools or for training in one of the special handicrafts.

Cumberland mountain crafts have an appeal, but there has never been an effective way for the whittlers, chairmakers, weavers, and painters to market their handicraft.

The RC&D Association joined hands with the Economic Development Center at the Tennessee Technological University to sponsor the Upper Cumberland Crafts Association. The association already has nearly 400 members.

The Crafts Association borrowed $60,000 from the Farmers Home Administration to build a warehouse and retail store. The new market is located at Crossville across the highway from the Cumberland County Playhouse, a phenomenally successful summer theater. Another retail store has just been opened in one of the large shopping centers in Nashville.

The RC&D plan is open-ended, and new project measures are being added as they are developed. The area's rich historical heritage prompted the directors to create a 12th committee to develop and re-

store historical sites in the area. The Historical Committee has found fertile ground in which to work.

Near the birthplace of World War I hero Sergeant Alvin T. York in Fentress County, Sergeant York's old water-powered grist mill is being restored to working condition with state funds in cooperation with the American Legion and other groups. Plans call for a museum to house personal effects of Sergeant York.

Moses Fisk, a noted educator, engineer, and pioneer from New England, established the first academy for women west of the Alleghenies. The Fisk home is being restored in Overton County.

Numerous other projects of historical significance have been launched. The committee felt that early pioneer cemeteries rightfully deserved attention, and many have been restored.

The county courts have made arrangements to place historical markers on all the courthouses.

W. R. Lassiter of DeKalb County, chairman of the Beautification Subcommittee, says that one of the most effective results of project teamwork has been making the countryside more attractive.

Lack of organized garbage pickup and disposal service, linked with miles of isolated roads, created a custom of roadside dumping that had built up unsavory garbage and abandoned cars and appliances on some of the most scenic drives in the area. Investors seeking industrial sites were repelled by the littered appearance of a basically beautiful countryside.

The first big beautification campaign was carried out in 1967. The 1968 campaign was even better.

Good organization made the effort work. A beautification committee representing the various communities and organizations was appointed in each county. Scout groups, garden clubs, civic clubs, and home demonstration clubs participated.

In some counties the electric co-ops gave free tow-away service to rid the roadsides of abandoned cars. Schoolyards were landscaped, and litter barrels were put up at key locations.

Workmen installing conduit to lead floodwaters safely through Livingston as part of watershed protection project.

Native craftsmen find an outlet for their products through Cumberland Mountain Crafts Association.

About 120 acres of unsightly roadsides have been seeded. Seed and other materials are purchased with RC&D funds. Labor for site preparation, seeding, mulching, etc., is arranged for locally. In several counties people working under the OEO's Mainstream Program took part. More help came from state and county highway departments, Neighborhood Youth Corps, and various clubs and organizations.

Beautification is also a sanitation measure.

When the project was developed, there were no sanitary landfills in the Hull-York counties. Garbage mouldered in open dumps or roadsides. One of the objectives of the project plan is to establish sanitary landfills in all project counties.

Five towns, including Cookeville, either have landfills in operation now or have acquired property for them. The Soil Conservation Service has made soil examinations and given other technical help in site selection and construction.

Obie Massingale, Negro assistant to Ralph Sasser, SCS state conservationist in Tennessee, sees progress in the improvement of the quality of living for long-disadvantaged people. A notable example is the Free Hills Community, a predominantly Negro settlement of some 200 people in Clay County.

The Free Hills Development Association was created within the framework of the home demonstration club and includes both men and women. The nine-member board of directors has five women and four men.

A Free Hills Development Plan —a "mini-RC&D" program—was prepared by the board with the participation of county officials, Tennessee State University, the SCS, Farmers Home Administration, and other agencies.

As a first step by the county government to help upgrade the community, a new road is being built. All roadcuts are being seeded and beautified as the work proceeds.

Beautification has been a prime objective of the Free Hills group. The community center, an old schoolhouse, has a new lawn. The cemetery has been cleaned up and landscaped with shrubbery. A workshop was held by Tennessee State A&I Extension and Field Service personnel to show residents how to select and transplant native plants for ornamentals.

The Cumberland Mountain Crafts Association helped the Free Hills Development Association get an Office of Economic Opportunity grant to start vocational classes in ironworking and broommaking. Tennessee State University is also starting classes in crafts.

The RC&D Recreation and Tourism Committee has promoted a recreation industry in the area with much success.

The committee gathered funds by private subscription to carry out a major campaign in 1967. About $10,000 was used to publish informational leaflets, bumper stickers, and placemats depicting the attractions in the Hull-York country as Tennessee's Family Funland.

Some proprietors of recreation businesses say they felt a definite upswing in receipts after the publicity campaign got rolling. They point out that State records for the Hull-York counties show an 11 percent increase in sales tax receipts in 1967 over the previous year—an increase, they say, that can be largely attributed to the expanding recreation and tourism industry.

People who have recreational enterprises—hunting preserves, motels, pioneer attractions, and the like—have formed the Upper Cumberland Tourist Association.

Five new golf courses have been built. A sixth is under construction, another is being expanded with RC&D loans. Four trailer parks with a combined capacity for some 200 trailers have been established in addition to the large camping areas provided by two state parks and several U. S. Army Corps of Engineers camping grounds.

The Hull-York area is blessed with an abundance of rainfall totaling about 50 inches a year, yet droughts and critical water shortages are becoming more prevalent. Floods also frequently wreak havoc with life and property.

The community of Livingston suffered a crippling flood in 1962. Floodwaters covered machinery, raw materials, and finished goods in the town's only industry, a garment factory. Factory officials said that unless something was done the factory would be closed.

The RC&D directors agreed that a definite plan for water-resource development had to become a prominent part of the RC&D project. The Livingston flood-prevention project, designed by the Soil Conservation Service and financed through RC&D funds, was completed in the fall of 1967. The factory and jobs of some 1,400 employees are now secure from floods.

Other project measures for community improvement may not be quite as dramatic, but some may have just as enduring effect.

Town planners and industrial developers, for instance, will soon have detailed soil surveys to help them select suitable industrial sites, homesites, sanitary landfills, parks, and other community facilities. Acceleration of soil surveys in areas of most intensive development is being carried out as a four-way cooperative program by the municipalities, Hull-York Lakeland Association, Soil Conservation Service, and the University of Tennessee.

H. C. Hardy of Tennessee A&I University helps Mrs. Bailey Andrews transplant a dogwood as demonstration in Free Hills Community.

The lack of community facilities to meet health and educational needs had always hampered the area's growth and development. Since the Hull-York Association was organized, five new libraries have been built with the help of Health, Education, and Welfare and Appalachia grants. Three new high schools, four health centers, and a mental health center are now under construction.

The drive, enthusiasm, and zeal of the Hull-York Lakeland RC&D Association and its people caused the Tennessee Conservation League to select the association as recipient of its 1967 "Conservation Organization Award."

The project plan estimates that the project will increase net income in the area by $57 million in the 10-year installation period, provided all proposed measures are completed. ♦

Resource Conservation and Development . . .

Multicounty projects help people help themselves

By John W. Barnard

Resource Development Division, SCS, Washington, D. C.

Resource conservation and development projects are successful, and they are popular.

Just 5 years ago the first 10 RC&D projects were authorized for planning assistance by the Secretary of Agriculture. Within a year they were operational. Four years later, there are 51 authorized projects in 39 states; 41 are operational.

These projects include all or parts of 293 counties—almost 10 percent of all counties in the United States—with an area of 169 million acres of land and water. Additional applications for planning assistance have been concurred in by the governors of 28 states, and more are coming.

The purpose of the projects is to provide additional economic opportunities to the people of their areas through accelerated conservation, development, and multiple use of natural resources. Their activities go beyond this, however, and are helping to bring about community and area improvements beyond the realm of the natural resources and environment.

There must be good reasons why RC&D projects are meeting with wide acceptance and are so successful.

The greatest single reason is that the projects originate with local people. The RC&D approach grew out of 30 years of experience of soil and water conservation districts that taught that successful conservation efforts must be locally directed.

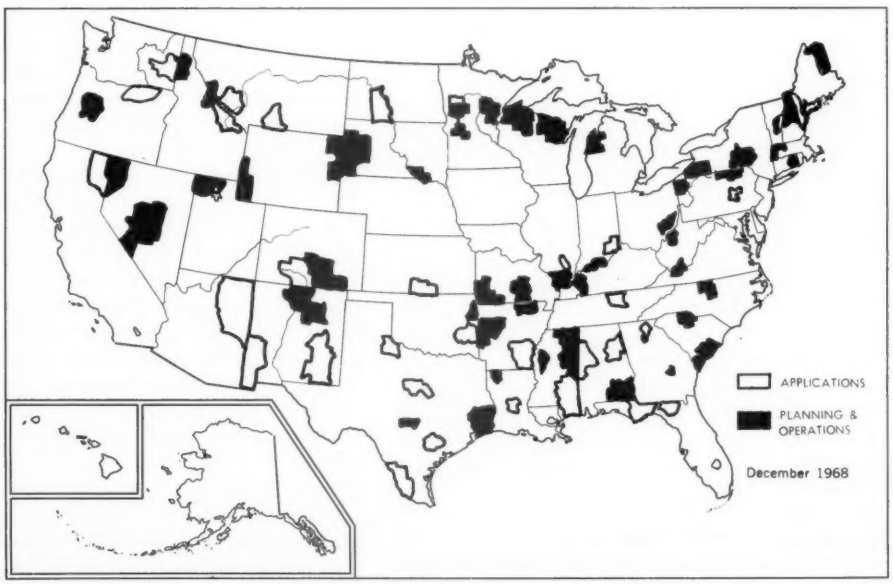
Local leadership organizes for action, and the project is built from the bottom up rather than from the top down. Local people make decisions about their project and what they intend to do. They recognize the need of the multicounty approach and set the boundaries large enough to deal with areawide problems and small enough for effective local leadership.

They investigate their problems, state their proposals, and develop their plans. They secure the cooperation of their local governmental units as project sponsors.

Local leadership teams up with all federal, state, and local agencies that can help with meaningful actions for progress. All segments of the community—rural, urban, suburban—coordinate their activities to achieve project goals.

The projects do not depend entirely on federal or state agencies for funds, however.

For example, in the Bitter Root Project in Montana, of the first 36 project measures completed or nearly completed, only 14 used federal funds. Local people spent $1.8 million or 74 percent of the total, to finance their share of improve-



Resource conservation and development projects.

Economic Benefits of Project Measures

	Measures (No.)	Employment in installation (Man-yr.)	Annual employment after installation (Man-yr.)	Increased gross annual income (Thous.)
Status as of July 1, 1968—				
Being planned	1,260	31,238	16,145	$137,069
Being installed	837	29,181	24,771	213,423
Completed	755	13,087	11,103	122,336
Total	2,852	73,506	52,019	472,828

ments; federal, state, and county funds totaled $633,000 or 26 percent. Of the governmental shares, 19 percent were federal, 6 percent state, and 1 percent county.

The table shows the benefits already experienced or expected from 2,852 project measures activated in 28 projects by July 1, 1968. They add up to more than 11,000 man-years of continuing employment and $122 million increased annual gross income created from completed measures associated with project action. And this is just the beginning.

The environment of effective community action, encouragement of private investment, and programs for improved community facilities all speed up efforts to bring about needed action. The carrying out of one measure often brings about the installation of related measures. In total, this means better living conditions for people and improved economic status for the area.

Steps in activating a resource conservation and development project

One of the questions most frequently asked about resource conservation and development projects is just what are the necessary steps to get a project going. They are: (1) application, (2) project plan development, and (3) operations.

1. *Application for planning assistance*

An RC&D project must be sponsored by local public bodies that have legal authority to undertake resource development activities. Usually eligible are soil and water conservation districts, county governing bodies, municipalities, towns, local and state agencies, irrigation districts, public development corporations, and similar groups.

Other local groups and organizations may endorse the project.

The sponsors draw up a project application outlining the resource problems and development opportunities as they see them. The Department of Agriculture and other agencies can help in preparing the application.

After approval by the Governor of the state, the application is forwarded through the Soil Conservation Service to USDA for review and consideration for authorization of planning assistance.

2. *A project plan*

After USDA authorization of the application for planning assistance, the project sponsors develop a project plan. The SCS state conservationist appoints a project coordinator to help the sponsors coordinate the assistance from the many state, federal, and local agencies that will be participating and to help the sponsors prepare a satisfactory plan.

Of course, not all the resources and needs can be adequately inventoried or described at the beginning. The initial plan usually presents in some detail measures of high priority that can be started within the next few years. Others that require further inventory and study are indicated in less detail or simply listed. The project plan is an open-end plan that might be amended or revised at anytime.

When the plan is completed, the sponsors submit it to the Governor or the designated state agency. After approval there, the SCS state conservationist sends it to the SCS administrator with review copies to other agencies concerned and to the House and Senate Subcommittees for Agriculture Appropriations.

3. *Operations*

The Secretary of Agriculture authorizes USDA agencies to assist the sponsors in carrying out those phases of the plan for which each agency has authority.

A coordinated approach is essential in carrying forward project operations. Sponsors set priorities, arrange for cooperation of local agencies or groups, and establish major policies. They may appoint a steering or executive committee for screening requests and advising the local sponsoring groups.

Many activities or project measures are carried out entirely with local resources, and for these the sponsors may act as a clearing house, suggest ideas, and find sources of help. They encourage private investment at every opportunity for it.

Soil and water conservation districts have an important place in RC&D project operations because of their authority under state laws to carry out broad land use programs. Other state and local governmental units also have an important place, since they can act as contracting agencies, receive federal or other funds, and operate and maintain works of improvement.

Federal agencies accelerate ongoing programs to provide more employment and contribute to expansion of the local economy. ♦

At right, Johnny Howard watches the last cotton crop leave the land the league will soon use for recreation. Interagency cooperation is evident in this planning group for the Sunflower River Recreational League. Seated (from left) are Al Phonse, FHA; Johnny Howard, Indianola businessman and league president; Malcolm C. French, FHA, and R. J. Ross, SCS. Standing (from left) are Sylvester Roberts, Neighborhood Youth Corps; James R. Davis, County Extension Service; Clarence L. Hawkins, OEO; and C. H. Whittington, SCS.

Community converts plantation cropland to recreation use

A 126-acre patch of cotton in Mississippi will never be the same after the Sunflower River Recreational League completes its plans to convert it from Old South plantation land to New South recreation land.

After the final crop of cotton is picked this winter, the furrows smoothed, the dams built, and buildings erected, the league will have the first recreation development of its kind in the Mississippi Delta.

SCS helped plan the layout for a 33-acre lake, baseball field, golf course, softball field, tennis courts, barbecue pits, and picnic tables, plus a handsome brick clubhouse on cropland that was patented in 1855. And, the Farmers Home Administration financed the development with a $220,000 loan, all under the Southeast Delta Resource Conservation and Development Project.

Most of the 250 league members are rural residents in Sunflower, Humphreys, Washington, Bolivar, and Leflore counties. Many live on farms, but the rolls are peppered with doctors, teachers, skilled mechanics, and businessmen.

Johnny Howard, Indianola businessman and league president, said, "The members are really excited. I had three members from Greenville here recently. They told me, 'This is one of the best things we could have done' . . . applications for membership are coming in from St. Louis; Springfield, Ill.; Chicago . . . from people who used to live in the Delta. . . ."

Local officials and businessmen believe the recreation area will attract skilled labor and paying customers and are proud of the cooperative attitude and initiative the people have shown. State and federal agencies are also cooperating through the RC&D project composed of the Delta council, the Sunflower Soil Conservation District, and other local districts.

Sunflower County officials have already platted the area and plan to build an access road.

Undoubtedly, the road will be kept busy, since literally thousands of Delta citizens are keyed up with the excitement of having their own recreation area. ♦

Farmer coop business in the billions of dollars

The dollar business volume of farmer cooperatives exceeded $16.5 billion in fiscal year 1967, an increase of 6 percent over the previous year. This is a rise of 59 percent over the volume 10 years earlier, according to the annual survey made by the USDA Farmer Cooperative Service.

The survey showed total net business volume of $16.6 billion for marketing, purchasing, and related-service cooperatives for fiscal 1967. California, Minnesota, and Iowa were first, second, and third among the states in total net dollar volume of business. ♦

Fish farming, a new venture

A "new" type of farming is gaining in popularity. It combines the best aspects of sound land use and economic opportunities with production of a delicious foodstuff. And it also affords fine recreational and sporting experiences for cityfolk.

This type of farming is called fish farming. It is "new" only in the sense that many farmers and other persons are just beginning to get into the business. ♦

Three future mechanics learn their trade from Instructor Jess Johnson (left).

Training program mans RC&D jobs

Training programs that equip people with new skills for better income are a feature of the Cherokee Hills RC&D Project in eastern Oklahoma.

One of the schools, supported by the Cherokee Indian Tribe and the U. S. Bureau of Indian Affairs, is opening new job opportunities especially for Indian citizens of the area.

In May 1968, 155 unemployed or underemployed men and women were enrolled in seven different training courses funded by the Department of Labor and sponsored by the RC&D Executive Committee and Council.

High placement rate

A high percentage of the graduates have found employment. Out of 55 workers graduated from four schools, 41 are now employed, most of them in the Tahlequah area. The Indian-operated Bull Hollow Dozer Operator School placed 11 of its first 13 graduates, and one went on to college.

Many jobs are created within commuting distance by other RC&D project measures, such as the Arkansas River Navigation Project, poultry developments, industrial expansion, and related measures.

New taxpayers

The RC&D sponsors adopted the training program as a means of implementing one of their 21 objectives for broad community development. In the three-county area the educational and income levels of citizens were low. Among people more than 25 years old, the average schooling completed was 8.4 years. In 1960, about 62 percent of the families in the area had median incomes less than $3,000.

The RC&D project measure was planned to train 800 people during a 3-year period. The first year's program offered men and women 22 to 55 years old training in welding, machine tool operation, bulldozer operation, stenography, farm maintenance, small motor repair, and tractor and implement repair. The courses have already taken unemployed people off the welfare rolls and turned them into taxpayers at wage rates higher than they had ever received.

The second phase of the program has been funded for 1969, for additional courses in stenography, welder combination, tractor and implement repair, bulldozer operation, machine tool operation, and small engine repair.

The Departments of Agriculture and Labor coordinated efforts at the Washington level to put priority funding into the training courses, with other types of assistance from the Department of the Interior and Department of Health, Education, and Welfare. The Oklahoma Cooperative Area Manpower Planning System (CAMPS), through the leadership

Trainee, Roy Proctor, gains a new start for himself and his family as a bulldozer operator.

of the Oklahoma State Employment Service, also helped in developing the program.

Cherokee Tribe's school

The Cherokee Indian Tribe of Oklahoma sponsored four courses in heavy equipment operations at Bull Hollow, starting in September 1966. The tribe provided the school site, buildings, and heavy equipment maintenance. The Bureau of Indian Affairs and the Cherokee Soil Conservation Committee provided the heavy equipment. Sixty-five percent of the first group trained were Cherokee Indians.

The trainees receive allowances through the Employment Service. Teachers' salaries are administered by Vocational-Technical Education, Manpower Development and Training Administration. Local technical action panels and the Employment Service recruit the trainees.

All trainees receive certificates upon completion of each course, and in addition the Cherokee Tribe presents its own certificate to graduating Cherokee Indians.—ALLEN R. Moss, *RC&D project coordinator, SCS, Tahlequah, Okla.* ♦

Water control spurs community development

A 60-unit housing development is almost ready to fill a basic need for the growing city.

The city of Providence in western Kentucky has ended its long history of water problems in exchange for a handsome bundle of community developments through the Tradewater River Area RC&D Project.

Since the six-county project was authorized for operations in 1966, Providence has used RC&D help to install these improvements:

(1) Channel improvements on Providence Creek that will eliminate threats of flooding and sediment damage to the center of the city.

(2) A renovated water plant that will purify 1 million gallons of water a day.

(3) A new sewage treatment plant capable of treating 1 million gallons of sewage a day.

(4) A 39-acre industrial reserve seeded to provide an attractive site for future industry.

(5) A 60-unit, $977,000 housing development financed by the Public Housing Administration.

(6) A 16-acre recreational site now including a little league baseball field with a picnic shelter.

(7) Initiation of regular town forum meetings at which about 75 local leaders meet quarterly to consider accomplishments and discuss the city's future.

(8) A request to the Soil Conservation Service from the city's planning commission for soil surveys on the 5,500 acres within the city limits.

"These surveys will aid our planning and zoning commission, engineers, realtors, contractors, and others to make wise use of land in and around our city," said Mac Lawrence Book, Providence's first city manager.

All of these improvements center around Owens Creek, a direct tributary of Tradewater River. Providence lies in the path of the creek and two tributaries in a 3,700-acre drainage area. Channel improvements that help control floodwaters, high water table, sedimentation, and mosquitoes along Owens Creek also improve conditions for industrial, recreational, and residential developments in Providence.

Improvements to the creek will cost an estimated $129,000. The city pays one-third and is responsible for land easements, rights-of-way, and maintenance after installation.

When all improvements are completed, Owens Creek will be an unobstructed open drainage channel to Tradewater River from the water and sewage treatment plants, the fairgrounds, and the main bridge in the city. Two dams will hold back sediment and add to the flood-protection benefits. The estimated average annual flood damage will be reduced by $2,720 or 96 percent.—WILLIAM C. LOWRY, *RC&D project coordinator, Madisonville, Ky.* ♦

Summary of activities of the Soil Conservation Service for fiscal year 1968

Service to rural and urban communities

The year 1968 found the Soil Conservation Service more deeply involved than ever in service to rural and urban communities in their efforts to create a better environment for human life.

SCS put a larger portion of its manpower into such community and group services as—

(1) Providing basic data on land and water resources to local authorities engaged in land use planning, resource development, and economic improvement.

(2) Providing consultive services to public bodies, private organizations, and individual property owners on soil and water conservation problems of community or regional scope and in suburban and ubanizing areas.

(3) Assisting local sponsors of resource conservation and development projects and small watershed projects prepare comprehensive plans for conservation, development, and use of land and water resources.

(4) Assisting public bodies and private landowners modify land-treatment measures to reduce the hazards of water and air pollution, improve methods of waste disposal, and enhance the esthetic and recreational values of the landscape.

Although SCS field men and staff specialists devoted more of their time to these activities in fiscal 1968 than in 1967, they continued to service ongoing programs of assistance to rural landowners in conservation districts with only slight decreases in results.

Assistance to communities and projects
Amounts for fiscal year 1968 compared to 1967

Consultive services	**184,672**	**Up 46%**
Basic data provided for comprehensive plans, acres	**137,443,058**	**Up 38%**
Properties adequately treated, acres	**456,795**	**Up 255%**
Land use regulations established by local governments, acres	**14,392,170**	**Up 730%**
RC&D projects in operation	**28**	**Up 34%**
RC&D project measures activated	**2,852**	**Up 52%**
Watershed projects in operation	**834**	**Up 2%**
Watershed projects completed	**205**	**Up 29%**

While community services and accomplishments generally increased in the range of 30 to 700 percent over 1967 levels, services to individuals were reduced less than 10 percent, and the acreage of land adequately treated continued to increase (see table).

The conservation mission

Following upon the recent intensive study by conservation districts of their expanding role in resource conservation, and the statement by the Department of Agriculture of its policies for Resources in Action (*Soil Conservation,* February 1968), SCS further analyzed and defined its conservation mission.

The central goal of SCS and other USDA resource programs is to assure that the Nation's natural resources are kept in a condition of readiness to support the economic system and social culture desired by society. The objective is human welfare and the dignity of man's spirit; our concern is with the total relationship between man and the environment around him.

Maintaining natural resource conditions that will support an adequate and profitable agriculture is only one of the aims of soil and water conservation. Other major results are—

- Assuring the continuing availability of land and water to satisfy all human needs.
- Greater economic activity in rural areas, thereby stemming the migration of people to urban centers.
- Upgrading of water quality by reduction of sediments and other pollutants.
- Reduction of air pollution from wind erosion and smoke.
- Control of streamflow by improvement of infiltration of water into and through the soil profile, thereby providing lower flows in the peak season and higher flows in the dry season.
- Improvement of the physical environment and economic well-being by decreasing the ill effects of uncontrolled flooding.

- Larger and more diverse populations of fish and wildlife through habitat preservation and development.
- Creating and preserving natural beauty by providing for harmonious land use patterns and blending economic uses into the natural landscape.
- Greater recreation opportunities from agricultural areas and from the lands and waters that crop, pasture, rangeland, and woodland conservation systems enhance.

Assistance to individual land owners and users
Amounts for fiscal year 1968 compared to 1967

New district cooperators	**101,870**	**Down**	**6%**
Total landowners assisted	**1,145,782**	**Down**	**2%**
Services provided	**3,269,329**	**Down**	**2%**
New conservation plans	**82,847**	**Down**	**11%**
New conservation plans, acres	**31,959,151**	**Down**	**6%**
Owners applying practices	**747,396**	**Down**	**3%**
Land adequately treated, acres	**52,012,875**	**Up**	**10%**
Soil surveys			
Mapping, acres	**52,190,793**	**Up**	**3%**

Preserving and strengthening the productive capacity of the resource base through time and creating resource conditions that upgrade man's environment are dual and compatible conservation goals that support the Nation's economic system and its social culture.

Community and consultive services

The awakening concern among citizens and community leaders about the total environment has multiplied demands on the Soil Conservation Service for information about land and water resources for nonagricultural uses and in broad geographic areas for planning purposes.

In fiscal 1968, SCS responded to about 1½ times as many such requests as in the preceding year. SCS conservationists provided 185,000 consultive services to some 108,000 individuals and groups, such as rural nonfarm residents, zoning commissions, contractors, civic organizations, and the like.

SCS provided basic data for use in 2,309 comprehensive plans covering 137½ million acres, an increase of about 38 percent over the preceding year.

About 5,600 properties occupying about ½ million acres were adequately treated, and 273 units of local government adopted land use regulations or treatment standards making use of such information.

Nearly twice as many land owners and operators were assisted on group conservation activities in 1968 as in 1967. SCS made preliminary investigations and reports on 4,374 proposed group enterprises comprising more than 4⅓ million acres and helped prepare 3,900 group plans on 2¼ million acres. These services exceeded the 1967 level by roughly 20 percent. They benefited 38,466 land owners or users, about twice as many as were members of participating groups in 1967.

RC&D projects

Resource conservation and development projects are proving to be an effective means of regional resource planning and accelerated economic development under local leadership.

By July 1, 1968, 41 projects covering 112,689,386 acres were underway in 35 states. Twenty-eight of these projects were operational, and 13 were developing plans for action. Individual projects include from one to more than 20 counties and range in size from about 280,000 to more than 8 million acres.

The first 28 operational projects will result in about 73,000 additional man-years of employment during construction and are expected to provide continued employment of more than 50,000 man-years annually when all project measures are completed.

The 750 measures that had been completed by July 1, 1968, provide 11,000 man-years of continuing employment and have increased annual gross income of the project areas by more than $120 million.

By the end of the year 2,852 planned land, water, and related development measures had been activated. When all these are completed, they will increase output of goods and services an estimated $470 million annually.

Some 200 SCS professional and technical people helping to accelerate activities in RC&D projects were engaged in fulltime, day-to-day resource development in 1968. An additional 726 agency personnel participating in project activities were paid from various state and federal funds.

Sponsors of RC&D projects are legal public bodies and as such represent local people in all phases of resource and economic planning and development. Since RC&D sponsors' programs are broad and resource based, they help improve living conditions and provide a favorable environment for industry and other business enterprises.

Assistance to low-income farmers

The Soil Conservation Service increased by 14 percent the number of man-hours devoted to working with small farmers (those usually grossing $10,000 or less annually) in fiscal 1968. The number of small farmers assisted was 21 percent more than in 1967.

Service to rural residents (primarily those living on small nonfarm tracts) increased 48 percent, and the number assisted in 1968 rose to more than 64,000.

Great Plains Conservation Program

The Great Plains Conservation Program is helping to bring about sorely needed stabilization of soil

Summary of Progress, Fiscal Year 1968

Total reportable progress in soil and water conservation programs assisted by the Soil Conservation Service

Progress items	Total reportable progress	Cumulative to June 30, 1968
Individual Conservation Plans and Related Services		
District cooperators ....No.	101,870	2,161,710
District cooperators ....acres	36,121,334	726,984,415
Cooperators canceled ....No.	59,824	—
Cooperators canceled ....acres	19,244,318	—
Landowners assisted ....No.	1,145,782	—
Services provided ....No.	3,269,329	—
Owners applying practices....No.	747,396	—
Special mapping for cons. plan & CNI ....acres	2,013,463	230,630,730
Conservation plans prepared:		
Farm ....No.	74,151	1,594,574
Ranch ....No.	3,077	63,666
Other ....No.	5,619	35,916
(Total conservation plans)	(82,847)	(1,694,156)
Farm ....acres	16,857,347	335,818,563
Ranch ....acres	14,370,818	211,517,905
Other ....acres	730,986	5,661,938
(Total conservation plans, acres)	(31,959,151)	(552,998,406)
Conservation plans canceled:		
Farm ....No.	43,180	—
Ranch ....No.	1,805	—
Other ....No.	741	—
(Total plans canceled)	(45,726)	—
Farm ....acres	8,776,093	—
Ranch ....acres	5,291,616	—
Other ....acres	37,839	—
(Total plans canceled, acres)	(14,105,548)	—
Conservation plans revised:		
Farm ....No.	34,512	—
Ranch ....No.	2,602	—
Other ....No.	286	—
(Total plans revised)	(37,400)	—
Farm ....acres	9,941,491	—
Ranch ....acres	11,047,444	—
Other ....acres	209,616	—
(Total plans revised, acres)	(21,198,551)	—
Federal lands in coordinated ranch plans ....No.	98	580
Federal plans in coordinated ranch plans ....acres	2,089,112	7,396,291
Consultive Services		
Services provided ....No.	184,672	--
Recipients ....No.	107,824	--
Basic data for use in comprehensive plans ....No.	2,309	—
Basic data for use in comprehensive plans ....acres	137,443,058	—
Land uses established by local government ....No.	273	—
Land uses established by local government ....acres	14,392,170	—
Properties treated ....No.	5,603	—
Properties treated ....acres	456,795	—
Operating Units		
Total operating units....No.	17,521	4,597,111
Total operating units ....acres	5,777,291	1,381,818,397
Other units ....No.	13,454	1,301,864
Group Conservation Plans and Services		
Group investigations ....No.	4,374	45,645
Group investigations....acres	4,477,102	38,256,446
Group plans prepared....No.	3,901	44,869
Group plans prepared....acres	2,241,340	29,295,786
Land owners or users in groups ....No.	38,466	324,725
Services provided on jobs....No.	73,273	—

Progress items	Total reportable progress	Cumulative to June 30, 1968
Great Plains Conservation Program		
Applications received ....No.	3,948	36,141
Applications received ....acres	6,786,186	68,959,532
Contracts signed ....No.	3,227	31,122
Contracts signed ....acres	5,176,284	56,601,700
Contract modifications ....No.	14,985	114,050
Contracts terminated:		
By mutual consent....No.	173	810
By mutual consent....acres	162,806	1,272,838
For cause ....No.	97	671
For cause ....acres	45,668	521,148
By expiration ....No.	2,553	10,909
By expiration ....acres	4,355,536	17,358,545
(Total terminations, No.)	(2,823)	(12,390)
(Total terminations, acres)	(4,564,010)	(19,152,531)
Cropland before GP contract, acres	769,976	8,675,677
Planned cropland conversion, acres	135,975	1,814,041
Servicing Other USDA Programs		
Referrals serviced:		
ACP—F.Y. 1968 ....No.	329,700	—
ACP—Program Yr. 1967....No.	—	326,786
Cropland Adjustment Program..No.	308	—
Cropland Conversion Program..No.	36	—
Appalachian Land Stabilization and Conservation Program...No.	1,189	—
Conservation plans approved...No.	970	—
Soil Surveys		
Soil surveys:		
High intensity ....acres	2,480,341	32,540,974
Medium intensity ....acres	36,994,793	576,042,470
Low intensity ....acres	8,412,118	103,342,076
Reconnaissance ....acres	4,303,541	19,100,099
(Total)	(52,190,793)	(731,025,619)
Soil conservation surveys....acres	—	29,626,745
Soil conservation surveys canceled or converted ....acres	2,134,666	—
Snow Surveys and Water-Supply Forecasting		
Snow course measurements....No.	5,604	—
Aerial snow marker readings...No.	950	—
Mountain precipitation gage readings ....No.	1,470	—
Soil moisture station readings..No.	1,424	—
River stations for which numerical forecasts issued ....No.	426	—
Numerical forecasts issued....No.	2,162	—
Recreation Developments		
Land owners and operators establishing first commercial recreation enterprise....No.	2,412	47,087
Land owners and operators expanding commercial recreation enterprises ....No.	763	—
Land owners and operators with recreation as primary source of income....No.	199	8,049
Land owners and operators with recreation as primary source of income....acres	52,786	—
Private noncommercial facilities established or expanded....No.	37,766	401,647
Public recreation facilities established or expanded....No.	766	25,759

Summary of Progress, Fiscal Year 1968—Continued

Total reportable progress in soil and water conservation programs assisted by the Soil Conservation Service

Progress items	Total reportable progress	On the land June 30, 1968
Conservation Practices Applied		
Bedding ....acres	16,827	509,911
Brush and weed control....acres	4,224,293	37,664,155
Irrigation canal or lateral....miles	306	38,994
Cattle walkway ....feet	22,222	1,411,737
Chiseling and subsoiling....acres	807,007	4,580,069
Clearing and snagging....miles	641	3,979
Conservation cropping system ....acres	23,493,803	175,468,335
Contour farming ....acres	4,025,983	44,448,934
Contour furrowing ....acres	43,432	768,578
Contouring orchard, etc....acres	10,730	208,143
Controlled burning ....acres	310,821	3,908,103
Cover and green manure crop ....acres	3,331,072	27,351,810
Critical area planting....acres	115,016	1,904,496
Crop residue use....acres	18,110,252	127,863,768
Cutback border ....miles	142	1,770
Dam, diversion ....No.	644	22,365
Dam, multiple-purpose ....No.	366	4,718
Debris basin ....No.	1,982	82,654
Range deferred grazing....acres	14,631,450	53,061,445
Desilting area ....acres	453	4,379
Dikes and levees....miles	257	9,455
Irrigation ditch and canal lining ....miles	1,475	23,669
Ditchbank seeding ....miles	1,069	22,395
Diversions ....miles	2,819	95,985
Dune stabilization ....acres	3,720	88,518
Emergency tillage ....acres	219,097	3,479,417
Farm pond ....No.	51,853	1,626,142
Farmstead and feedlot windbreak ....acres	28,893	630,309
Field border planting....miles	1,499	42,481
Irrigation field ditch....miles	2,328	126,138
Field windbreak ....miles	3,921	86,498
Firebreak ....miles	8,455	122,988
Fish and crop rotation....acres	2,714	12,800
Fishpond stocking ....No.	43,182	869,791
Fishpond management ....No.	36,441	231,470
Floodwater diversion ....feet	63,249	1,160,879
Floodwater-retarding structure .No.	513	9,562
Floodway ....miles	41	586
Grade stabilization structure...No.	14,066	216,143
Grasses and legumes in rotation ....acres	1,467,660	23,859,984
Grassed waterway or outlet....acres	102,117	1,718,658
Hedgerow planting ....miles	305	27,943
Hillside ditch ....miles	254	5,520
Irrigation pipeline ....miles	4,246	63,939
Irrigation storage reservoir....No.	773	40,598
Irrigation system, sprinkler....No.	4,468	109,519
Irrigation system, surface and subsurface ....No.	4,568	121,686
Irrigation system, tailwater recovery ....No.	1,131	9,383
Irrigation water management..acres	3,726,754	15,729,579
Land clearing ....acres	638,948	14,052,226
Drainage land grading ....acres	34,876	309,340
Irrigation land leveling ....acres	459,952	10,170,405
Land smoothing ....acres	319,350	5,570,709
Livestock exclusion ....acres	1,083,391	23,668,718
Minimum tillage ....acres	1,544,927	12,360,228
Drainage main or lateral....miles	6,701	305,687
Mole drain ....miles	10,837	56,185
Mulching ....acres	38,032	504,509
Mulch planting ....acres	53,425	204,857

Progress items	Total reportable progress	On the land June 30, 1968
Conservation Practices Applied—Continued		
Woodland natural seeding....acres	96,178	3,347,314
Obstruction removal ....acres	38,942	764,162
Pasture and hayland management ....acres	10,222,627	42,627,391
Pasture and hayland renovation ....acres	1,387,921	20,338,191
Pasture and hayland planting .acres	2,031,892	49,255,715
Pipelines ....miles	2,040	20,495
Pitting ....acres	39,862	223,779
Plow planting ....acres	71,959	1,477,332
Pond sealing or lining....No.	896	10,802
Range proper use....acres	74,114,965	205,709,220
Woodland proper grazing....acres	1,953,487	11,046,647
Pumped well drain....No.	2	143
Pumping plant for water control ....No.	2,104	49,165
Range renovation ....acres	12,335	1,525,691
Range seeding on converted land ....acres	152,299	4,800,262
Range seeding ....acres	355,193	8,830,088
(Total range seeding acres)	(507,492)	(13,630,350)
Irrigation pit or regulating reservoir ....No.	1,390	43,647
Regulating water in drainage systems ....acres	11,038	486,172
Rock barrier ....feet	15,826	276,528
Range rotation—deferred grazing ....acres	3,244,409	12,048,277
Row arrangement ....acres	765,689	2,910,503
Recreation access road....miles	817	9,075
Recreation area stabilization..acres	3,752	96,679
Recreation area planting....acres	19,976	237,304
Recreation area pruning and thinning ....acres	6,911	71,789
Recreation land grading and shaping ....acres	13,263	127,398
Recreation trail and walkway .miles	407	3,908
Spoilbank spreading ....miles	5,206	128,153
Spring development ....No.	5,172	103,765
Stock trail ....miles	187	3,231
Streambank protection ....miles	431	6,159
Stream channel improvement .miles	1,322	13,327
Stream channel stabilization ..miles	22	623
Stripcropping contour ....acres	146,666	5,794,240
Stripcropping, field ....acres	82,357	1,629,849
Stripcropping, wind ....acres	355,576	14,322,478
(Total stripcropping, acres)	(584,599)	(21,746,567)
Structure for water control....No.	88,900	1,820,344
Stubble mulching ....acres	4,280,374	20,030,920
Drainage field ditch....miles	6,367	166,374
Terrace, basin ....miles	65	2,581
Terrace, gradient ....miles	12,937	780,741
Terrace, level ....miles	10,723	374,782
Terrace, parallel ....miles	7,081	55,682
(Total terraces, miles)	(30,806)	(1,213,786)
Tile drain ....miles	24,351	721,224
Tile system structure....No.	11,420	170,270
Toxic salt reduction....acres	86,401	1,215,849
Tree planting ....acres	265,242	14,119,468
Trough or tank....No.	13,385	359,032
Vegetative barrier ....miles	541	7,334
Vertical drain ....No.	57	1,710
Waterspreading ....acres	47,881	917,408
Well ....No.	8,145	407,268
Wildlife habitat preservation..acres	2,931,934	14,091,505

Summary of Progress, Fiscal Year 1968—Continued

Total reportable progress in soil and water conservation programs assisted by the Soil Conservation Service

Progress items	Total reportable progress	On the land June 30, 1968
Conservation Practices Applied—Continued		
Wildlife wetland development ..... acres	81,076	1,244,788
Wildlife habitat development ..... acres	267,889	3,561,465
Wildlife wetland preservation . acres	259,354	2,632,267
Wildlife watering facility..... No.	1,781	9,952
Woodland direct seeding..... acres	12,596	509,819
Woodland harvest cutting.... acres	839,463	17,838,393
Woodland intermediate cutting ..... acres	823,557	15,595,714
Woodland interplanting ..... acres	21,218	915,094
Woodland pruning ..... acres	17,207	345,308
Woodland thinning ..... acres	47,968	1,435,340
Woodland underplanting .... acres	28,634	1,014,415
Woodland weeding ..... acres	327,774	10,542,554
Land Treated		
Land adequately treated..... acres	52,012,875	436,075,833
Land Use Conversions [1]		
Cropland to grassland..... acres	1,243,178	17,905,047
Cropland to woodland..... acres	89,836	1,910,501
Cropland to wildlife-recreation ..... acres	75,298	932,540
Cropland to "other" ..... acres	44,599	3,604,909
All other uses to cropland .... acres	291,904	5,205,702
All other uses (except cropland) to wildlife-recreation..... acres	269,729	4,606,242

[1] Conversions on the land June 30, 1968, are estimates of conversions since July 1, 1962.

resources and of the local economy of the Plains states.

It is a program tailored to the peculiar conditions and needs of a geographic region. Authorized in 1956 and due to expire in 1971, it has brought 31,122 farm and ranch operators under contract with the Department of Agriculture to follow comprehensive conservation plans on 56,601,700 acres.

As the program nears the date of expiration, the demand for the long-term cost-sharing contracts continues to grow. The 1968 fiscal year ended with a backlog of more than 5,000 unserviced applications. Three more states completed the designation of all eligible counties for participation in the program.

In fiscal 1968, 3,227 new contracts were signed covering 5,176,284 acres, obligating all the funds available for cost-sharing and technical assistance for the year.

A major effect of the program is to bring about the conversion to permanent vegetation of cropland unsuitable for sustained cultivation under the hazardous climatic conditions of the Plains. Contracts signed in 1968 call for such conversion of 135,975 acres, or about 18 percent, of the 769,976 acres of cropland on the farms and ranches involved. To date, 1,814,041 acres of cropland conversion has been contracted under the program.

Quality of the environment

Efforts by the Soil Conservation Service to help improve the total environment are increasing in scope and intensity. Reducing sediment from all sources, encouraging proper land use and conservation practices to reduce duststorms, and controlling the effects of agricultural wastes as pollutants of air, water, and soil are first-priority objectives of all SCS programs.

During 1968, SCS conservationists and technical specialists helped explore alternatives for disposal of feedlot and poultry wastes, food and crop processing wastes, and domestic sewage, garbage, and refuse. The SCS soil, engineering, and plant science experts are involved in helping determine the use and limitations of lagoons, landfills, septic tanks, infiltration ditches, and spray systems for treatment of these wastes.

Eroding lands, both agricultural and urban, discharge sediment into the Nation's streams and rivers where it is one of the most damaging and offensive pollutants. Guidelines for minimizing possible soil erosion from highway construction have been prepared jointly by the Soil Conservation Service and the U. S. Department of Transportation. These have been distributed to field personnel by the Soil Conservation Service and the Bureau of Public Roads as instructional material concerning highway planning and construction.

Outdoor recreation resources

Conservation measures, mostly on private land, used primarily for the development of outdoor recreation opportunities continued to be established at an accelerated pace with SCS assistance during fiscal year 1968.

Cropland converted to wildlife and recreation increased to 75,000 acres, about 12 percent over the preceding year. More than 3,700 acres of recreation area stabilization was reported in fiscal year 1968, an increase of 38 percent.

Other recreation practices showing an increase in 1968 included pruning and thinning, grading and shaping, establishing trails and walkways, and fishpond management. All these contributed directly to improving outdoor recreation opportunities, providing additional employment, and aiding the local

agricultural and business economy.

Altogether, more than 40,000 recreation developments were established during the year with SCS help.

Watershed protection

Local agencies and organizations submitted 123 applications for assistance on watershed-protection and flood-prevention projects under Public Law 566 during fiscal year 1968. Authorizations for planning assistance were limited to 100 as in previous years. At the end of the fiscal year, the backlog of unserviced applications currently judged as suitable for planning authorizations stood at 781.

A total of 17 watershed projects were approved for operations and funded during the year. An additional 78 watershed work plans were approved by the appropriate committees of the Congress during the 90th session but funding was withheld.

Projects being planned continue to reflect the multiple-purpose concept for community development. Of the 78 plans approved by Congress, 49 incorporate more than one purpose. In addition to watershed protection and flood prevention, 23 projects will provide facilities for public recreation; 11 include water-supply storage; 18 improved agricultural drainage; 10 irrigation improvements; and four fish and wildlife enhancement.

Forty-six watershed projects were completed during fiscal 1968 and are producing a variety of benefits for local communities. A total of 205 projects in 47 states now have all land treatment and structures installed and are being operated and maintained by local organizations.

An impressive array of benefits were provided during fiscal 1968 to watershed residents where projects were under construction or completed. At least half of them are in low-income areas needing the kind of economic boost and environmental improvement that are part of a successful watershed project. Estimates of some of the benefits produced during fiscal 1968 are:

- $27.5 million in flood damages prevented.
- $17.1 million added to local payrolls.
- 5,700 new jobs created.
- Facilities for 1.2 million annual visitor days of recreation provided.
- 78,000 people in 11 communities achieved dependable water supplies.

River basin planning

SCS participated in water and related land-resource investigations on 51 river basins during fiscal 1968. Twenty-four of these are comprehensive inter-agency studies being coordinated by the Water Resources Council established under the Water Resources Planning Act of 1965.

The Soil Conservation Service provides leadership for river basin planning in the Department and provides the USDA member for each of the four river basin commissions created under provisions of Public Law 89–80. These commissions are charged with the preparation of a comprehensive joint plan for development of the water and related land resources of the commission areas. Other river basin studies in most cases are carried out in cooperation with State water-resource agencies.

Soil conservation districts

During 1968 the Soil Conservation Service continued its technical assistance to individual land owners and users cooperating with soil and water conservation districts throughout the country.

Conservation districts now encompass about 96 percent of the "land in farms" and 99 percent of the farms and ranches in the United States. Nineteen new districts were formed in 1968. Consolidations of existing districts left a net total of 3,012 districts with an area of 1,798.5 million acres at the end of fiscal 1968.

The owners and operators of 114,342 farms, ranches, and other rural properties totaling more than 52 million acres developed new conservation plans or revised existing ones with Soil Conservation Service assistance. More than 747,000 land owners and operators were assisted in applying conservation to their land during approximately 1,146,000 contacts by Soil Conservation Service personnel. Adequate conservation treatment was applied to more than 52 million acres, or 10 percent more than in 1967.

Almost 6,000 conservation plans were developed or revised on about 940,000 acres of land primarily used for nonagricultural purposes, such as reservoir areas, recreational tracts, and industrial sites.

Among conservation practices applied by cooperators in amounts significantly greater than in 1967 were critical area planting by an increase of 19 percent, dune stabilization 116 percent, grassed waterways 18 percent, range renovation 63 percent, range rotation-deferred grazing 44 percent, recreation area stabilization 38 percent, water-spreading 72 percent, and wildlife habitat preservation 28 percent.

Soil surveys

Detailed soil surveys were completed in fiscal 1968 on 47.89 million acres and reconnaissance surveys on 4.30 million acres, making a total of slightly more than 52 million acres mapped during the year. Forty soil surveys covering 18.25 million acres were published. Adequate surveys now cover more than 731 million acres.

Soil surveys supplied basic soil information for developing technically sound conservation plans on about 83,000 farms and ranches. Of these 83,000, about 70 percent were small farms with gross income of $10,000 or less.

About 5,200 organized groups received soil maps and interpretations from the Soil Conservation

Service in fiscal year 1968. About 1,540 of these used the information to plan for balanced rural-urban communities. Another 1,360 groups representing villages, towns, cities, counties, and multicounty areas used soil surveys to guide development in areas of rapid expansion of housing and industry, and some 2,300 rural groups used soil surveys for planning orderly rural development.

These resource data helped locate suitable sites for recreation, farming, forestry, ranching, and wildlife. They pinpointed stable soils for construction of homes, highways, and industry. We estimate that 3 to 5 million persons are affected by this work.

A new and more precise system of soil classification, initiated in 1951, was nearly completed for publication in fiscal 1968.

The new system provides more precise and useful soil surveys and makes it easier to use the results of soil research from all over the world that has specific application in the United States. The new system also helps provide more specific information to countries receiving technical assistance from the United States.

Conservation Needs Inventory

Updating of the nationwide Conservation Needs Inventory was in the final phase of completion at the end of the fiscal year. Acreage estimates of major land uses—cropland, pasture and range, forest, and other land—had been reviewed and accepted for 39 States by the Department Conservation Needs Inventory Committee. Estimated conservation treatment needs have been received from 22 States, of which four had been accepted and 18 were being reviewed.

All states have completed the watershed projects inventory, and machine summaries were completed for 43 States.

The Soil Conservation Service has contracted for the writing of a nontechnical report on the inventory to be entitled "Status of Land and Water Resources in the United States—1967." The publication, which will be widely distributed, will contain the historical background of the inventory as well as tables of data for general use and application.

Requests for and use of preliminary data have been numerous and widespread. Tentative figures have been furnished to many planning bodies, economic study groups, RC&D project executive committees, and the like.

Technical advances

Rapid change in farming methods is bringing about equally great changes in conservation concepts and methods. The high-horsepower tractor with 6-, 8-, or 12-row equipment, the combine with 6- or 8-row corn header, and the multirow mechanical cotton picker are now commonplace.

Added emphasis was given in 1968 to installation of parallel terrace systems for erosion control on cropland, making farming easier with big equipment. Spacing to fit equipment used on each farm eliminates point rows that require extra turning.

There is a trend toward replacing surface waterways with buried pipe to carry runoff from terrace systems. This provides longer rows and reduces need for turning. Land grading, long accepted as necessary for surface-irrigated land, is being increasingly used on dry land.

A standardized system to simplify the presentation of detailed soil information for use in woodland conservation has been developed and adopted. It provides foresters and woodland owners a simplified tool for use with soil maps in woodland management, comparable to the capability classification that has served so well for broad area land-use planning and for tilled crop production. Provisions are being developed for the use of automatic data processing for the storage and retrieval of soil-woodland site data from more than 20,000 sample plots.

Two pilot studies were started in 1968 to effect storage and retrieval of watershed data by computers. An increasing use of computer solutions is identifying a broader choice of effective and economical arrangements of measures for local planning groups to consider in formulating their watershed projects.

Four major ADP programs are now fully operating for doing (1) the watershed hydrology, (2) stream hydraulics, (3) the economic analyses, and (4) the positioning and sizing of structures, in all Public Law 566 watershed planning.

Work continues on standardization of detailed structural drawings. Added emphasis has been placed on standardization of design procedures for routine work that can be most efficiently performed by engineering aids.

Foreign program activities

The Soil Conservation Service continued to work with the Agency for International Development and the USDA's International Agricultural Development Service on overseas technical assistance programs. During the year 37 employees were working under long-term agreements and 18 people went on short-term assignments. SCS personnel worked in Brazil, Ecuador, India, Nigeria, Senegal, Thailand, Tunisia, Turkey, and Vietnam.

Negotiations have been completed for providing USDA technicians to Zambia.

During the year SCS provided assistance to 345 visiting technicians from 52 different countries. Two hundred and fifty-three were AID-sponsored and spent approximately 236 man-months in training with SCS. Thirty-four were sponsored by FAO and spent 19 man-months with the SCS. The others were sent by their governments, sponsored by private foundations, or organizations, or came on their own. ♦

Meetings . . .

NACD focuses on Nation's natural resources

The need to elevate popular concern for the Nation's natural resources in the coming decade will be the focus of the 23d annual convention of the National Association of Soil and Water Conservation Districts, February 2–6, Atlanta, Ga. More than 2,000 conservation district officials and other resource development leaders expect to attend the general sessions, committee meetings, tours, and other events.

Henry Caulfield, executive director of the Federal Water Resources Council, will talk about the First National Water Assessment just released. Edward P. Cliff, chief of the U. S. Forest Service, will discuss "Up-Grading America's Farm Forest Wealth." Glen E. Bennet, executive director of the Atlanta Region Metropolitan Planning Commission, will present "Key Resource Aspects of Regional Planning."

Other speakers at the convention will include Senator Herman E. Talmadge of Georgia and Mary Carter of the Girl Scouts of the U. S. A.

A Soil Stewardship inspirational meeting also will be held.

Irrigation association tackles national problem of water

The National Conference on Water Conservation With Sprinkler Irrigation, sponsored by the Sprinkler Irrigation Association, will tackle the critical national problem of water—its misuse, abuse, overuse, and sometimes appalling shortage.

The conference will be held on February 24 and 25 in Washington, D. C.

Floyd E. Dominy, commissioner of the U. S. Bureau of Reclamation, will deliver the keynote address.

The Sprinkler Irrigation Association is a national trade organization whose members include manufacturers and distributors of agricultural and turf sprinkler irrigation equipment, conservationists, educators, and government personnel interested in more efficient use of water through sprinkler irrigation.

Range society zeroes in on north of the "forty-ninth"

"Rangelands North of the Forty-Ninth" is the theme for the 22d annual meeting of the American Society of Range Management, February 10–13, Calgary, Canada. The society has many active members in Canada with the Northwest, International Mountain, and Northern Plains sections straddling the border.

The program includes sessions on rangeland history, ecology, hydrology, management, improvement, marketing, and wildlife.

Dates and Places

February 2–6, National Association of Soil and Water Conservation Districts, Atlanta, Ga.

10–13, American Society of Range Management, Calgary, Canada

14–18, American Road Builders Association, Chicago, Ill.

15–19, American Association of School Administrators, Atlantic City, N. J.

16–19, American Pulpwood Association, New York, N. Y.

24–25, National Conference on Water Conservation With Sprinkler Irrigation, sponsored by the Sprinkler Irrigation Association, Washington, D. C.

24–26, Land Improvement Contractors of America, Grand Rapids, Mich.

28–March 2, National Wildlife Federation, Washington, D. C.

March

2–3, The Wildlife Society, Washington, D. C.

3–5, North American Wildlife and Natural Resources Conference, Washington, D. C.

14–20, Associated General Contractors, Washington, D. C.

16–19, National Farmers Union, Hot Springs National Park, Arkansas

16–20, Association for Supervision and Curriculum Development, Chicago, Ill.

20–26, National Lawn and Garden Week

21–25, National Science Teachers Association, Dallas, Tex.

29–30, National Conference on Rural Health, Seattle, Wash.

Review

From Sea to Shining Sea. By the President's Council on Recreation and Natural Beauty. *1968. (Government Printing Office) 304 pp., illus. $2.50.*

From Sea to Shining Sea is an outstandingly illustrated 304-page report by a Cabinet-level council on the American environment, both natural and manmade. It outlines progress since the 1965 White House Conference on Natural Beauty, describes the current state of each of our environments, gives a wealth of specific details about them, and makes general recommendation for improvements.

A look at the chapter headings illustrates its scope: the urban areas of downtown, the neighborhood, the city, and the metropolitan region; the rural areas of the countryside, the waterways, and wilderness and recreation areas; and highways and other forms of transportation. It also details the sectors of American life responsible for action, and gives a rather comprehensive listing of governmental and private organizations, plus information on pertinent printed and visual material.

The emphasis and style of the report may not please everyone, but on balance it seems a fair summary of those aspects of today's America it deals with.

To this reviewer, there seems a rather heavy stress on the urban environment. For that very reason, however, the book is especially good reading for people who already know the rural environment in some detail. For urban people I would recommend a further look at, say, the 1963 USDA yearbook *A Place to Live.*

To some conservationists *From Sea to Shining Sea* may seem to contain an almost undue stress on environmental beauty. However,

that is what the book is about and, as the book itself says: "It is almost as if Americans, confronted with the staggering consequences of nature out of balance, have fallen back on the one faculty that can somehow judge it and respond: the esthetic sense. If something is beautiful it is likely to be functioning properly and in good health. The ability to perceive beauty may, in the long run, prove man's salvation."—C. JOHNSTON, *Information Division, SCS, Washington, D.C.*

Science for Better Living: The Yearbook of Agriculture 1968. *USDA. 386 pp., illus. $3.00.*

The fourth in USDA's new series of popularized yearbooks, begun in 1965 with *Consumers All,* is designed to acquaint the general public with the many ways agricultural research makes life better for the average citizen.

The book consists of 83 brief articles about specific research projects, or groups of related activities, and their applications to practical living.

The yearbook's preface points out that all of us benefit in our daily lives from agricultural research "because it improves the meals we eat, the clothes we wear, our water and air, the wood we build much of our homes with, and the plants and trees that make our surroundings more livable."

It is an attractive book, with handsome color and black-and-white photo illustrations, that should capture the interest of the general reader.

Unlike some of the yearbooks of the past, however, it will be of little use to the scientist and technologist as a working tool.—B.O.

New publications

Working with the Disadvantaged. *By E. J. Niederfrank. 1968. USDA PA-891. 11 pp.* "Effort to help disadvantaged people improve their situations generally must concentrate on personal development. First it must increase their confidence in you and your purposes. Simply providing information about agency programs and other aids is not enough.

"Most of all, those who would assist must understand and appreciate what life is like at the bottom of society. Generally there is a real communication gap between the providers of aid and the people with the problems. And usually this gap results from the great differences in life styles of disadvantaged families compared with the life styles of other people."

This publication is aimed at helping professional workers overcome this gap.

Teaching Conservation Through Outdoor Education Areas. *1968. USDA PA-837. 23 pp., illus. $0.20.* Since most attitudes and behavioral patterns are formed early in youth, it is important that conservation learning take its place along with other learning processes, and it should begin in the elementary and secondary schools. Here is the Forest Service guide for the development and use of outdoor education areas.

Farmers' Pesticide Expenditures for Crops, Livestock, and Other Selected Uses in 1964. BY JOHN F. GALE, PAUL ANDRILENAS, AND AUSTIN FOX. *1968. USDA Agr. Econ. Rpt. 145. 20 pp., illus.*

Farmers' Expenditures for Custom Pesticide Service in 1964. BY ROBERT JENKINS, THEODORE EICHERS, PAUL ANDRILENAS, AND AUSTIN FOX. *1968. USDA Agr. Econ. Rpt. 146. 24 pp., illus.*

Extent of Farm Pesticide Use on Crops in 1966. BY AUSTIN FOX, THEODORE EICHERS, PAUL ANDRILENAS, ROBERT JENKINS, AND HELEN BLAKE. *1968. USDA Agr. Econ. Rpt. 147. 23 pp., illus.* More than half of all United States farmers use weed, insect, or disease control chemicals on their crops. These booklets give basic data about pesticide use.

USDA opens new food stamp areas

Under USDA's Food Stamp Program, around 280,000 low-income people in 235 new areas in 31 states will be able to increase their food-buying power with food stamps.

When these new areas are in operation, well over 3 million people will be benefiting from food stamps in some 1,550 areas in 43 states and the District of Columbia. At the same time, another 3.5 million needy people will be getting USDA donated foods in counties and communities taking part in the Commodity Distribution Program. ◆

KAB uses cartoons in anti-litter campaign

Keep America Beautiful, Inc., in its war on litter, is distributing to newspapers, magazines, and other media throughout the country eight anti-litter conservation cartoons.

These cartoons were drawn by SCS Illustrator Felix Summers, and copies can be obtained from Keep America Beautiful, Inc., 99 Park Avenue, New York, N. Y. 10016.

SCS promotes this campaign against litter in many ways. It gives technical help to local communities for properly locating sanitary landfills for trash disposal. It has made litter control and cleanup a part of the project measures in more than 50 multicounty RC&D projects. And it has given technical help at hundreds of locations for conservation beautification.

In helping in conservation education programs in schools and in the development of school sites as outdoor learning laboratories, SCS stresses litter control. Initial cleanup of the outdoor sites is emphasized, and the school children are encouraged to take part in the project. ◆

FELLOW TRAVELER

From the Administrator:

RC&D—the can-do projects

Resource conservation and development projects have opened up new horizons for civic leaders in rural communities and for governing bodies of soil and water conservation districts.

They have extended areas of concern beyond the immediate limits of town, city, county, or district to regions of interrelated activities and resources.

The RC&D project "community" has proved consistently to be multicounty in scope.

When local people inventory and analyze their resources and needs, they see that accomplishments in one locality help adjoining localities do the same thing.

Consequently, the RC&D project area joins neighboring counties, districts, cities, and towns into a team seeking to advance the well-being of people within their total geographic area.

RC&D projects also have led soil conservation districts to direct major efforts to meeting the economic and social needs of people as they are related to the use and management of physical resources.

From their initial concern with soil erosion and water runoff on farmland, conservation districts have broadened their outlook to sponsor measures dealing with air and water pollution, water supply and management, solid waste disposal, recreation resource development, and related activities. These lead naturally to concern with communications and transportation, employment and markets, health and education, and the whole range of economic and social measures needed for effective use and development of area resources.

Begun 5 years ago in selected areas of the country, the program has grown to include 51 authorized projects. The RC&D idea has proved itself to be practical, popular, and successful. It is a going national program, with some 30 applications for new projects awaiting action and others in the process of preparation.

Many states are moving to establish a system of multi-jurisdictional planning and development districts. They will provide areas within which the coordination of the planning and development activities of local, state, and federal agencies can be facilitated.

The RC&D approach to dealing with the natural resource base would support the comprehensive planning goals of such districts.

Such a program serves as a catalyst in stimulating investments in agricultural developments, new businesses, private and community recreation facilities, improved housing, and other recognized needs. It has clearly demonstrated how planning on a multicounty basis can lead to better living in rural areas.

RC&D projects are, of course, locally initiated and sponsored. They are based on the premise that people in project areas can and will solve their resource problems through their own efforts if given some encouragement and some help by public agencies.

Basically, it is a "self-help" program. We must keep this in mind, for the moment a project becomes an effort directed and controlled by other than local people, its effectiveness is lost.

Another principle that is basic is that the agencies and organizations that give assistance to an RC&D project must work as a team under the direction of local leadership.

Success calls for a concerted effort among agencies and between agencies and sponsors. No one is more important than the others. Working in unison, they can accomplish far more than they could if each pursues its separate program on its own.

I have personally witnessed how many local people from a wide variety of backgrounds and interests pool their efforts with concerned organizations and agencies; refuse to take no for an answer; and achieve cherished goals of better community living and improved economic growth.

Kenneth E. Grant

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Farmer's Mexican food enterprise whets the public's appetite

The Pete Casados enterprise in the Espanola Valley of northern New Mexico is cashing in on the spreading public taste for genuine Mexican foods by growing, processing, and distributing these products to outlets from Albuquerque to southern Colorado.

The farm is one of the success stories of the Northern Rio Grande Resource Conservation and Development Project which now covers public and private lands in four counties. Participating in the project are county, state, and federal agencies with a steering committee composed of local citizens.

Native food products, particularly varieties of chili and corn, which many topnotch restaurants use for Southwest specialty dishes, are produced, processed, and packaged at the farm and marketed through local stores or in bulk to distributors. These Mexican specialty dishes, different from their counterparts "south of the border," come from recipes handed down through generations from the old Spanish American colonists who adopted foods originally grown by the Indians.

Five members of the Casados family are engaged year-round in all phases of the operation. In addition, five other local people are employed permanently, and 25 to 30 work during harvesting and processing.

Casados is expanding his facility, and when it is in full operation, the project is expected to increase the average annual community income by an estimated $60,000 to provide an average annual employment of 15 man-years.

Outdoor ovens (ornos) are used to precook corn for Mexican food products. Bernabe Herrera of SCS helps Mrs. Pete Casados stoke the fire.

Several other farmers in the area process and market their products through the facility.

The Northern Rio Grande Project was one of the 10 original pilot projects approved for planning assistance in 1964. It is cosponsored by 26 municipal, county, and state agencies including the state of New Mexico, Rural Area Development Association, and three soil and water conservation districts.

Pablo Roybal of Taos, chairman of the steering committee, said in one of the sponsors' reports, "It is people, people working together to better themselves, to improve their community and making it a better place in which to live, work and play—for themselves and their children." ♦